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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ROBERT C. LAM, FENG DONG,
YIN-FANG CHEN, and BULENT CHAVDAR

Appeal 2009-0366
Application 10/666,090
Technology Center 1700

Decided:¹ March 30, 2009

Before BRADLEY R. GARRIS, CATHERINE Q. TIMM, and
JEFFREY T. SMITH, *Administrative Patent Judges*.

SMITH, *Administrative Patent Judge*.

DECISION ON APPEAL

¹ The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the Decided Date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

This is a decision on an appeal from the Primary Examiner's rejection of claims 1-3, 7-10, 12-17, and 28, all of the pending claims. We have jurisdiction under 35 U.S.C. §§ 6 and 134.²

Appellants' invention relates to a friction material comprising a base material impregnated with at least one curable resin, the base material comprising i) a porous primary layer comprising a fibrous base material, and ii) a secondary layer comprising geometrically symmetrically shaped friction modifying particles. The Specification discloses an object of the invention is to provide friction materials with improved "anti-shudder", "hot spot" resistance, high heat resistance, high friction stability and durability, porosity, strength, and elasticity. (Spec. 6). Independent claims 1 and 9 are reproduced below:

1. A friction material comprising a base material impregnated with at least one curable resin, the base material comprising i) a porous primary layer comprising a fibrous base material, and ii) a secondary layer comprising geometrically symmetrically shaped friction modifying particles at least partially covering an outer surface of the fibrous base material; the material of the primary layer holding the geometrically symmetrically shaped friction modifying particles on the surface of the porous primary layer,

wherein the secondary layer comprises a mixture of carbon particles and symmetrically shaped silica particles, the carbon and silica friction modifying particles being present at about 0.2 to about 80%, by weight, based on the weight of the primary layer material, and

wherein the secondary layer comprises about 20% to about 35%, by weight, of symmetrically shaped silica particles, and about 65% to

² In rendering this decision, we have considered Appellants' arguments presented in the Appeal Brief dated October 26, 2007.

about 80%, by weight, carbon particles, based on the total weight of the friction modifying particles.

9. A friction material comprising a base material impregnated with at least one curable resin, the base material comprising i) a porous primary layer comprising a fibrous base material, and ii) a secondary layer comprising geometrically symmetrically shaped friction modifying particles at least partially covering an outer surface of the fibrous base material; the material of the primary layer holding the geometrically symmetrically shaped friction modifying particles on the surface of the porous primary layer,

wherein the secondary layer comprises a mixture of symmetrically shaped diatomaceous earth particles and fully carbonized carbon particles or partially carbonized carbon particles, and mixtures thereof, and

wherein the secondary layer comprises about 20% to about 35%, by weight, of the symmetrically shaped particles, and about 65% to about 80% by weight of the carbon particles, based on the total weight of the friction modifying particles.

Claims 1-3, 7-10, 12-17, and 28 stand rejected as follows:

A) Claims 1-3, 7-10, 12-17, and 28 rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement.

B) Claims 1-3, 7-10, 12-17, and 28 rejected under 35 U.S.C. § 102(b) as anticipated by, or in the alternative under 35 U.S.C. § 103(a) as obvious over Lam, Published European Patent Application No. EP 1,203,897 A1, published May 8, 2002.³

³ The Examiner also cited Chen, U.S. Patent No. 6,875,711 B2, issued April 5, 2005, (filed September 4, 2002), as extrinsic evidence in support of the stated rejection.

The 35 U.S.C. § 112, 1st Paragraph, Rejection

The Examiner concluded that by describing particles by their properties, rather than disclosing particles suitable for the purpose, and not describing a process for making the claimed shaped friction modifying particles, the Specification provides insufficient description to enable the claimed invention.

Appellants contend the Specification provides sufficient description to enable all features of the claims. (App. Br. 7). Specifically, Appellants state “Figures 1a, 1b, 2b, 2c, 2d and pages 18 and 19 of the specification disclose geometrically symmetrically shaped particles for the purpose of practicing the claimed invention.” (App. Br. 7).

The issue presented is : have Appellants shown the Examiner reversibly erred in concluding that the Specification does not provide sufficient enabling description and definition of the claim feature, “geometrically symmetrically shaped friction modifying particles,” “symmetrically shaped silica particles,” “symmetrically shaped particles,” “symmetrically shaped diatomaceous earth particles,” “symmetrically shaped diatomaceous earth,” and “substantially flat disc shape,” as required by 35 U.S.C. § 112, first paragraph? We answer these questions in the negative.

A determination of whether a claimed invention is enabled is a question of law based on underlying factual findings. *In re Vaeck*, 947 F.2d 488, 495 (Fed. Cir. 1991); *Atlas Powder Co. v. E.I. du Pont de Nemours & Co.*, 750 F.2d 1569, 1576 (Fed. Cir. 1984). The standard for determining whether the specification meets the enablement requirement is whether the

experimentation needed to practice the invention is undue or unreasonable. *Minerals Separation, Ltd. v. Hyde*, 242 U.S. 261, 270 (1916), cited in *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988).

The Examiner finds that the Specification leaves uncertainty relating to the degree of geometrical symmetry that is required for a predicted outcome, and Appellants have not disclosed how this geometrical symmetry is determined or formed. Appellants have not defined in the Specification how to determine the geometrical symmetry related to a predicated outcome. Contrary to Appellants' arguments, the Specification, figures, and description does not provide a description as to what is encompassed by "geometrically symmetrically" and how to determine what is "geometrically symmetrically" shaped. While it appears that the scope of the claimed invention encompasses particles such as those described by Lam, cited in the prior art rejection, there is no indication as to what particles are not encompassed by the claimed invention.

For the foregoing reasons, as well as those reasons stated in the Answer, we affirm the rejection under 35 U.S.C. § 112, first paragraph.

*The Prior Art Rejection*⁴

The Examiner found that Lam describes a friction material comprising a base material impregnated with at least one curable resin, the base material

⁴ Appellants have not separately addressed claims 1-3, 7-10, 12-17, and 28. (App. Br. 7-16). Consequently, claims 1-3, 7-10, 12-17, and 28 will stand or fall together. We select claim 1 as representative of the rejected claims. As indicated below, we have considered all separate arguments for patentability of the rejected claims.

comprising i) a porous primary layer comprising a fibrous base material, and ii) a secondary layer comprising geometrically symmetrically shaped friction modifying particles that anticipates each and every element of claims 1. The Examiner asserted that the shape limitation is inherent to the friction modifying particles of Lam. (Ans. 4-8).

Appellants contend that the appealed claims are distinguished over Lam because Lam does not disclose or suggest “the secondary layer comprises about 20% to about 35%, by weight, of symmetrically shaped silica particles, or about 65% to about 80%, by weight, carbon particles, based on the total weight of the friction modifying particle.” (Br. 13). Appellants also contend that the Examiner has not established that the shape limitation is inherent to the friction modifying particles of Lam. (Br. 13).

The issue presented is: did Appellants identify reversible error in the Examiner’s rejection of claim 1 under § 102 and § 103? We answer these questions in the negative. The issue turns on whether the Examiner has made out a prima facie case sufficient to shift the burden of proof to Appellants to show that Lam does not describe, either explicitly or inherently, a friction material comprising a base material impregnated with at least one curable resin, the base material comprising i) a porous primary layer comprising a fibrous base material, and ii) a secondary layer comprising geometrically symmetrically shaped friction modifying particles as specified in claim 1.

We have thoroughly reviewed each of Appellants’ arguments for patentability. However, we are in complete agreement with the Examiner that the claimed subject matter is not patentable within the meaning of

§§ 102 and 103 in view of the applied prior art. Accordingly, we will sustain the Examiner's rejections.

FINDINGS OF FACT

The Examiner finds that Lam describes a friction material with improved anti-shudder characteristics, strength, porosity, wear resistance, noise resistance and elasticity. Lam discloses the friction material allows for more uniform heat dissipation while eliminating uneven lining wear or hotspots. (Ans. 11; Lam [0038]). The Examiner found that Lam discloses silica particles may comprise diatomaceous Celite® and Celatom®. (Lam [0060]). The Examiner acknowledged that Lam did not explicitly recite the geometry, symmetry, or shape of the particles. However, the Examiner cited the Chen reference as evidence that Celite® has a symmetrical shape. (Ans. 5; Chen, col. 4, l. 57- col. 5, l. 4). The Examiner found that Lam discloses the characteristics of the secondary layer including the amount of silica and carbon particles. (Ans. 4-5; Lam [0024], [0025]). The Examiner recognized that Lam did not describe the amount of friction modifying particles based on percentages of the total weight. However, on page 16 of the Answer, the Examiner provided calculations that indicated that Lam discloses amounts of silica particles and carbon particles that overlap and fall within the scope of the claimed invention. Appellants have not asserted in a responsive brief that the Examiner's calculations were in error.

PRINCIPLES OF LAW

Anticipation under 35 U.S.C. § 102 requires that a prior art reference sufficiently describe the claimed invention to have placed the invention in

the possession of the public. *See Minnesota Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1572 (Fed. Cir. 1992).

Under 35 U.S.C. § 103, the factual inquiry into obviousness requires a determination of: (1) the scope and content of the prior art; (2) the differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) secondary considerations. *See Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966).

[A]nalysis [of whether the subject matter of a claim is obvious] need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.

KSR Int'l. Co. v. Teleflex Inc., 127 S. Ct. 1727, 1740-41 (2007), *see also DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1361 (Fed. Cir. 2006) (“The motivation need not be found in the references sought to be combined, but may be found in any number of sources, including common knowledge, the prior art as a whole, or the nature of the problem itself.”); *In re Bozek*, 416 F.2d 1385, 1390 (CCPA 1969) (“Having established that this knowledge was in the art, the examiner could then properly rely, as put forth by the solicitor, on a conclusion of obviousness ‘from common knowledge and common sense of the person of ordinary skill in the art without any specific hint or suggestion in a particular reference.’”).

Where the Examiner establishes a reasonable belief that the property or characteristic recited in the claims would have been inherent to the product or process, the burden of proof shifts to Appellants to show that this

characteristic or property is not possessed by the prior art. *See In re Best*, 562 F.2d 1252, 1255 (CCPA 1977); *In re Spada*, 911 F.2d 705, 708 (Fed. Cir. 1990).

ANALYSIS

Appellants aver that the claimed invention patentably distinguishes over the Lam reference because of the characteristics of the secondary layer. Appellants further aver that there is no basis in fact and theory to support the Examiner's alleged inherency arguments regarding the shape of the friction modifying particles. (App. Br. 13). However, Appellants do not explain why the Examiner's reference to Chen as evidence and the calculations provided in the Answer do not support the stated rejection.

Appellants have not directed us to objective evidence that establishes that Lam does not include symmetrically shaped silica particles and carbon particles as required by the claimed invention. It is noted that the claimed invention does not provide a description as how symmetrically shaped particles are determined. Where the Examiner establishes a reasonable belief that the property or characteristic recited in the claims would have been inherent to the product or process of the prior art, the burden of proof shifts to Appellants to show that this characteristic or property is not possessed by the prior art. *See In re Best, In re Spada, supra*.

Appellants have failed to direct us to evidence sufficient to refute the Examiner's finding that the friction materials of Lam (as evidenced by Chen) are the same as the claimed product including the symmetrically shaped silica particles as recited. Instead, Appellants provide unsupported attorney argument. An attorney's argument is no substitute for objective evidence against the Examiner's finding. *In re Pearson*, 494 F.2d 1399,

1405 (CCPA 1974). Further, it has not escaped us that Appellants and the Lam and Chen references have common inventors and the same assignee. Manifestly, no one is in better position than Appellants to clarify on this record the shape of a silica particles described by Lam.

In view of our determination that the Examiner correctly rejected claim 1 under 35 U.S.C. § 102; the rejection under § 103 also is correct. *In re Fracalossi*, 681 F.2d 792, 794 (CCPA 1982) (“[E]vidence establishing lack of all novelty in the claimed invention necessarily evidences obviousness.”).

For the foregoing reasons and those stated in the Answer, we affirm all grounds of rejection presented in this appeal.

CONCLUSION

The rejection of claims 1-3, 7-10, 12-17, and 28 under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement is affirmed .

The rejection of claims 1-3, 7-10, 12-17, and 28 under 35 U.S.C. § 102(b) as anticipated by, or in the alternative under 35 U.S.C. § 103(a) as obvious over Lam is affirmed.

ORDER

The rejections of claims 1-3, 7-10, 12-17, and 28 are affirmed.

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Application 10/666,090

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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